From: jkelly@goldeneye.water.ca.gov
To: Syaeger@water.ca.gov, rwoodard@water.ca.gov
Subject: RE: notes on CALFED Program alternatives
Date: Thu, 29 May 97 14:01:30 EDT

--- Begin Included Message ---

Rick and Steve, I got this from EPA, FYI

>From POP3-Server@goldeneye Thu May 29 12:43:59 1997
Received: from zephyr.water.ca.gov (zephyr [136.200.84.6])
by goldeneye.water.ca.gov (8.8.5/8.8.4) with ESMTP
id KAA10146 for <jkelly@exec.water.ca.gov>; Thu, 29
May 1997 10:55:23 -0700 (PDT)
Received: from epahub4.rtptok.epa.gov (epahub4.rtptok.epa.gov
[134.67.212.72])
by zephyr.water.ca.gov (8.8.5/8.8.4) with SMTP
id KAA25459 for <jkelly@water.ca.gov>; Thu, 29 May
1997 10:58:28 -0700 (PDT)
Received: by epahub4.rtptok.epa.gov(Lotus SMTP MTA v1.1b1
(341.13 3-12-1997)) id 852564A6.00625C80 ; Thu, 29 May 1997
13:54:22 -0400
From: Yale.Carolyn@epamail.epa.gov
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Date: Thu, 29 May 1997 10:57:04 -0700
Subject: notes on CALFED Program alternatives
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Status:

I'm sending around this draft of notes on a couple of the common elements
in CALFED alternatives (also attached files). The water quality appendix B
notes come mostly from a meeting 5/28 (Macler, Herbold, Rea, Schwinn,
Yale), with a few comments which Gail provided before annual leaving.

CALFED has asked for comments on the Phase II alternatives by 6/6, in
preparation for discussion at the 6/11 PCT meeting. I will compile
comments but depend on Team members for substance. (We discussed this
briefly at the Team meeting last week, passed out text. Also, Gail and I
have been in contact with some of you about review already.) I'm in
training next week, so getting together on this will be limited to the
earlybirds. Please e-mail comments (before COB 6/2, if possible).
There may be some interest in a federal agency conference call to discuss
alternatives before the PCT meeting; I'll keep you posted.

Re water quality:
* We agreed that additional work is needed on water quality but that key
people aren't available to complete work by the "due date" of 6/6. Thus,
we will provide some "highlight" comments by 6/6, and we'll notify CALFED
of need for additional time for more thorough comments.

Draft comments on the 17alternatives (distinguished by storage/conveyance)
later today in separate e-mail.

Thanks. Carolyn

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Note: once we?ve reviewed and made recommended revisions to the component pieces, we might work through the integration process with a few selected alternatives-- maybe one from each of the three main approaches.

ERPP COMMON PROGRAM-- APPENDIX A

We agreed to hold off intensive ERPP review until the draft is released in mid-June. The following is a quick scan. When we review the ERPP in detail, we will need to consider a functional as well as geographic division of effort. For example, we?ll need to look at how the resource element ?stream meander belts? (which relates to floodplain restoration) is handled in various watersheds. There are ?watershed? actions distributed throughout the geographic areas under various resource elements. We should also check to see if ERPP targets and actions have been integrated with the other common programs -- notably, water quality (contaminants as a stressor in ERPP) and levees (flood plain management, levees).

General

1. Provide integrating principles which characterize the relationships between the resource elements. Does this appear in the vision statements?

2. Sources (information, plans, programs) for the targets and actions should be identified consistently. (Many appear to be drawn from DFG plans and/or the CVPIA AFRP.) Identification of sources applies to both flow and non-flow actions, but flow targets/actions particularly need documentation. (Is this information in the full ERRP?)





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In particular, clarify where CVPIA AFRP prescriptions are being used or supplemented. CALFED will need to address the question of level of AFRP implementation assumed/planned under that program (through CVPIA-related resources and authorities).

3. Flow prescriptions intended to affect channel morphology need more scientific support.

a. Is the ?conceptual model? of flow/channel processes on which these prescriptions are based reasonable?

b. What information is needed to make prescriptions using this conceptual model?

Is this information available for the streams where this type of target intended?

c. In light of the above (a and b), are the targets supportable?

Note: The Phase II alternatives document (Summary of common Programs, pp. 3- 4) emphasizes strategy that will restore ecosystem processes.

However, these processes aren?t as clearly defined as they could be.

(Is this information in the larger ERPP? Compare the work done for indicators....) We probably need to check the completeness of process.

4. The mechanisms for streamflow enhancement are unclear, referring in some cases to voluntary sales of water, in other cases to something vaguer (see for example: Colusa, streamflow, reference to supplemental reservoir releases).

. Establish implementation priorities. Are some ERPP targets more critical than others. Also, considering priorities, would some storage/conveyance or other component conflicts be more

significant than
others? For example, see Delta TA, Target 5 regarding net flows through
the lower SJR channel during winter.

6. There are many targets without corresponding actions (a few gaps noted
below in the specific comments). Needs work.

7. Provide additional detail regarding implementation of certain actions:
Many of the actions are quite specific and appear to be directed to
particular agencies and implementing mechanisms. In these cases, identify
the agency/mechanism.

Comments relating to specific zones and/or resource elements:

San Joaquin River ecological zone: I suggest that we try to fill in the
flows component for this zone to provide information complementing the
floodplain and meander zone reestablishment referenced in the targets.
Susan?

Flows:
a. No flows enhancement actions are provided with reference to the
mainstem San Joaquin, although there are targets for the main
tributarie). Whereas the Sacramento side used flow targets and
actions, there is no comparable complement of measures for the San
Joaquin. Do we know that the sum of targets for the tributaries
amounts to adequate mainstem flows?

b. What is the Bay-Delta connection in increasing flows between
Friant and Gravelly Ford? (page 1, reference to benefits to resident
native fish). [One can make the (logical) case that restoring flows in
the main San Joaquin below Friant could contribute to solving salinity

problems, refuge supplies (= waterfowl habitat), channel and floodplain habitat restoration, anadromous fish restoration, and so forth. As represented in this ERPP document, the rationale seems feeble.]

c. Streamflow targets refer to flow releases to provide for passage of fall run and late fall run chinook, not channel morphology or floodplain characteristics. The stream meander migration element calling for restoration of the floodplain and reestablishment of the stream meander zone between Vernalis and the mouth of the Merced makes no sense without the appropriate flow complement.

d. Similarly, the levees, bridges, and bank protection element (page 2 of the SJ ecological zone) addresses setback levees ?to establish the hydrologic connectivity between these channels and natural floodplains? without clarification of the anticipated or targeted flows.

Shaded riverine aquatic (page 3, San Joaquin zone): is more detail available on the targeted areas?

Note floodplain inundation in Delta zone ( Delta TA, p. 5): If this is implemented there is a potential conflict with conveyance diversions (entrainment).

See Delta ecological zone p.2, target 3, relating to falll or early winter outflow pulse.... The action refers to flows recommended by DFG and AFRP, and notes ?no supplementary release of stored water would be required above that required to meet [these] prescribed flows.? What does this mean from

the perspective of CALFED program implementation? (See General comment # 2.)

Eastside delta tributariess ecological zone page 1 refers to the Cosumnes:
restore natural streamflow pattern for summer and fall periods.
Action:
Improve base flows by developing new water supplies along the river and by
purchases from willing sellers. What is intended here? Substitute supplies
from other sources?

Look at the dredging targets. Delta TA p. 6.

Contaminants targets.
Delta TA p. 8.

The Water Quality common program p. 2 refers to mercury contamination;
this is not carried over to the ERPP common program (see Yolo Basin
ecol zone).

Riparian scrub habitat, San Joaquin Delta area, Delta TA p. 14. This needs
to be explained in ecosystem function and process terms (i.e., the
rationale for the specifics). It is not clear where this habitat is
targeted within the South Delta (along the SJ River). How does this relate
to the floodplain targets? Also, the target language addresses the SJ
River, while the actions refer to the Sacramento and Mokelumne, Cosumnes...
not the SJR. For riparian woodlands (the next resource element), there is
also reference to a South Delta Unit target without corresponding actions.

Watershed management: see for example Cottonwood Creek ecol zone streamflow
action to develop a watershed management program which could contribute to
improved runoff patterns. See also land use (resource element), watershed

protection....

DRAFT

Comments on the assumptions for no action and existing conditions
(Appendices E and F):

I understand from Rick Breitenbach that these assumptions, which apply to
DWRSIM runs, are being tweeked for distribution soon as part of the no
action/existing conditions package. CALFED will request agency sign-off of
this package at the June Management Team meeting. This material has not
changed substantially since we reviewed it in late 1996. If we accept the
?rules? for defining what belongs in the existing conditions and future no
action (without project), then the contents should follow on the basis of
good information and good judgment. I suggest that we defer final review
and comment on these assumptions until receipt of the ?package.? In the
meantime:

Here are notes in progress, using Appendices E and F.
We should discuss assumptions with the Bureau.
Clarify relationship between these assumptions and those used for
CVPIA PEIS, and by State Board.

No action:
Benchmark study 472

Note that CVPIA implementation is not, for the most part, in no action.
CVPIA flow implementation based on an April 1996 prescription from the
Bureau (flow objectives on Sacramento, American, no reference to Delta).

(b)(2) in delta?

The intent is to use 2020 hydrology. For the present, CALFED is using a





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1995 level of development.

Conditions assume operation per the COA. Unstored flows for storage and export are split 55% CVP/ and 45% SWP. In months when export/import ratio limits exports, the export is split evenly between the two projects.

Interruptible SWP water (page 5): how is this implemented? Implications for transfer capacity at facilities?

Uses State Board Plan 1995. Interior delta standards on SJR (San Andreas landing) not modeled.
Accord?

Existing conditions:

The agreement that the State Board WQC Plan and Accord should be included in the existing conditions scenario does not come through clearly.
Instead, there are three ?alternatives?: D-1485, the 1995 Plan without sharing on the SJ side; and a third alternative based on the Plan, but with sharing. These ?alternatives? are assumptions for DWRSIM studies 467, 468, and 469. These assumptions may be selectively combined into a new existing conditions run for CALFED...?

Water Quality -- Appendix B
Summary from meeting May 28, 1997

1. We need to understand the problem assessments underlying the actions prescribed. The information provided is incomplete, but perhaps is (will be) included in the full text of the Common Program document. Contact Rick Woodard for information on the status of the full common program for water quality.

2. We need to clarify what modeling will be done for water





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quality, beyond
flows. What models will be used in the delta?

3. Some actions are quite vague (for example, unknown toxicity). Other
actions have been restricted from original scope (for example, land
retirement). The Program needs to explain where there are circumstances of
incomplete, unavailable information which preclude more definitive action
at this time-- investigations, etc., needed in the near term. The Program
element should also explain which methods have been considered but rejected
for various reasons (for example, land retirement for salinity control).
In some cases we may be able to provide more substance (information on
problems, criteria, potential methods, actions).

Specifics:

p. 2, mine drainage: Explain where mine drainage presents a problem for the
ecosystem and/or human health. Be specific regarding the reaches of
rivers, streams affected. Cross check the water quality component
assessment with references in ERPP relating to toxic contaminants. Joe
Karkowski, Rick Sugarek.

P 3 toxicity from pesticides chlorpyrifos and diazinon: indicators of
success should cite DFG criteria.

P 3 oxygen depletion problem to which the action refers is limited to a
specific area on the San Joaquin, at the Port of Stockton turning basin,
during the fall (low flow period on the River). We are not aware of other
areas with this problem, making it less a program issue than a very
specific one. Further, the source of the problem is related to discharge
from a particular plant, so source control may be an option.

This should
be checked with Terry Oda and with the regional board. (Note
top of page 4
reference to Basin Plan objectives; is there really a
widespread problem
with DO?)

We should check the CZARA measures applicable to these
problems; could
these measures be incorporated here by reference?

GL: Page 2, Action regarding Mercury loadings to Delta,
Regarding the bullet on development of research program
to identify
bioavailable forms of mercury - According to Phil Woods,
he has never
seen any data to indicate that mercury, in any form, is
not
bioavailable. This research program should not serve as a
reason to
delay acting upon mercury sources.

P 3 provision of incentives referenced as a method relating to
the oxygen
depletion action is out of place, and should be moved to a
later section
addressing discharges.

P 4 The Program element should include an agricultural
component relating
to sediment loading, turbidity, unless assessment indicates
that this is
not a problem for the ecosystem. (The current text refers only
to urban
and industrial sources.)

P 4 wastewater and industrial discharges: The problem of impact
of domestic
wastes and pathogens is largely associated with contact via
recreational
use. It is not truly a problem for drinking water, since
treatment
addresses these contaminants. Further, we are not aware of
?environmental?
issues associated with these wastes. Rewrite the action
statement and
indicators to emphasize the recreation use. There are hot
spots within the

delta where the recreation impact is pronounced, and these should receive
priority attention (for example, Grant Line slough/canal).

GL: Page 4, Action regarding boat discharges -
Consider developing a program that phases in a ban on boat
discharges, after gradually providing access to plentiful and
affordable pumpout facilities throughout the Delta. This could still
be complemented by increased education, enforcement, etc.

Page 5 action to reduce the toxic impacts of selenium: The ?western Delta?
should refer to the area upstream of Chipps Island, and should not include
Suisun Bay. Refinery releases probably do affect Suisun, but not the
western Delta. Indicator of success should refer to reducing bioaccumulation of selenium in organisms of Suisun Bay (rather than the
western Delta).

GL: Page 6, Action regarding reduction of selenium loading -
The three methods listed, by themselves, will not necessarily reduce
selenium loads. While water use efficiency in the Grasslands region
has increased from 60% to 80%, selenium loads have still increased as
more land have come into production.
We support the concept of reducing loadings and suggest a broadening
of methods considered to include economic incentives such as tiered
water pricing and tradable discharge permits.
In addition, consideration should be given to the entire Grasslands
watershed and activities that might be undertaken to address selenium
sources in the upper watershed. This provides a good opportunity for
CALFED to promote more of watershed approach to the selenium problem.

GL: Page 6, Action regarding salinity in the Delta -
Third bullet under methods - Reverse osmosis does not

appear to be a viable, cost-effective solution. Also, by what mechanisms do constructed wetlands remove salts? Performance measure focuses on reduced salinity loads entering the San Joaquin River. However, the fourth method that suggests timing the discharges with high flow conditions in the River will not have an impact on salt loadings (just on concentrations).

Page 6, referring to the action to reduce agricultural drainage toxic effects of selenium:

Methods should add developing and implementing a TMDL; incorporating the provisions of the Grasslands Bypass Use agreement; adopting and implementing a waste discharge requirement.

Indicators should refer to reduced selenium loads. This could be measured closer to the source and impact areas such as Mud Slough, although Vernalis acceptable as well (monitoring data available). We were not certain of the distinction between the ?performance measure? and the ?indicator of success,? which appears to be another performance measure without ultimate ecosystem relationship. Tissue concentrations should refer to Bay-Delta species.

Page 6, on salinity reduction: check with Dennis Westcot or similar expert at the Regional Board.

Methods should, we believe, include land retirement or at least explain that this method was considered but rejected for specified reasons.
Emphasize management for in-valley solutions in the methods list.

Page 6, action relating to reducing salinity in the South Delta. The separate entry here should be deleted, as it refers to dilution actions, rerouting pollution, and structural options which are included in certain of the 17 alternatives. These measures are inappropriate for the water quality common element. To the extent that salinity in the South Delta is a problem, it should be noted in the action immediately preceeding. Source control methods are appropriate in the common element, but not the methods associated in this action (such as tide gates).

If the CALFED alternatives do adversely affect the South Delta, mitigation measures such as those suggested here (barriers, additional water supplies) may be considered. (Again, note that the barriers are included in some of the storage and conveyance alternatives. These may not be necessary to the performance of the storage/conveyance facilities, but more associated with impact mitigation.)

** We need to consider further how to address the question of disposal of salts. This is a key issue in the San Joaquin Valley water quality/drainage strategy paper.

Page 7, action on toxic effects of carbofuran, etc. in the delta and tributaries. There are DFG criteria which can be cited in ?indicators of success.? Ascertain why only three of five pollutants (in rice field water quality issues) are cited here. Check with Debra Denton.

Page 7, on ammonia. Clarify the geographic incidence of this problem. Dan Meer or someone such as Chris Vaux (sp?) at the Regional Board might be able to explain if ammonia is a problem.

Page 8, water treatment, action relating to improved quality of treated
drinking water. There needs to be further thinking on appropriate actions.
We cannot agree that the ?incentives? listed under ?methods? are
appropriate.

Page 8, TOC and other problems. This needs clarification of the problems
and rewrite of the methods. Bromides, for example, are not discharges.
Relocating the water supply intakes may not be the appropriate response.

(Note however that this is included in many of the 17 alternatives.)

Page 9, unknown toxicity. This is genuinely a problem but the common
element write up is vague. Run this by Debra Denton.

GL: Common Program in Alternatives Report:

Page 12, Second paragraph under ?Coordinated Watershed Approach? - change
?the State Water Resources Control Board?s (SWRCB) Sacramento River
Watershed Program? to ?Sacramento River Watershed Program.? Change ?the
Sacramento River Toxic Parameter Control Program? to ?Toxic Pollutant
Control Program.?

--- End Included Message ---